FIG. 1B

FIG. 1A

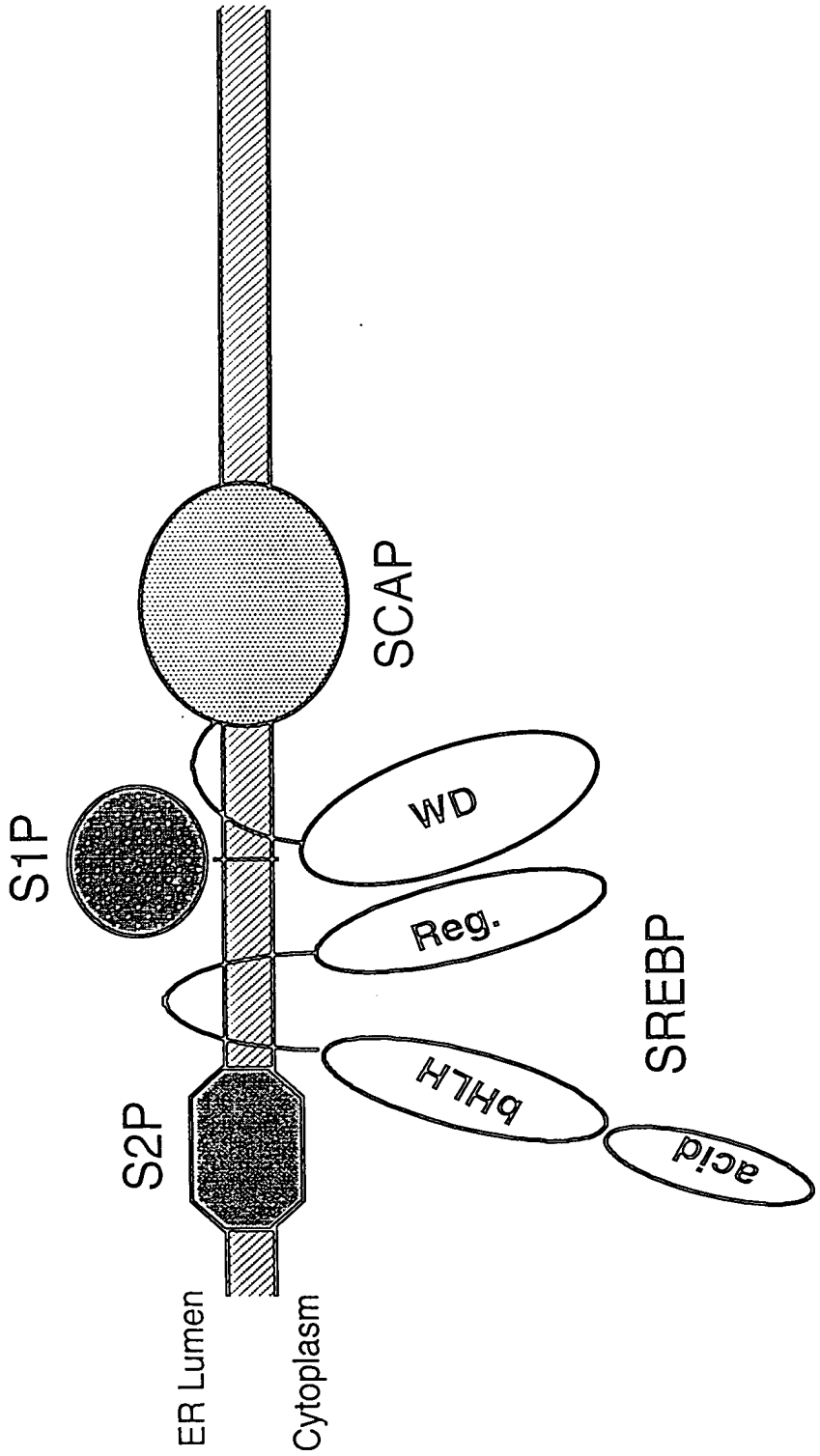

FIG. 2

GGTTTAATTACCCAAGTTTGAGAATGAACGAAGAATTCGAGGGAGACGTC 50
CCAAATTAATGGGTTCAAACTCTTACTTGCTTCTTAAGCTCCCTCTGCAG

CCTATGTCGGATCCGTTTCTCTCATTGGTCACAAAATTGGATGATATTGC 100
GGATACAGCCTAGGCAAAGAGAGTAACCAGTGTTTTAACCTACTATAACG

GCCATTTCCAAATAACGACCCGCTCGATTTTGACATGGAGCACAACTGGC 150
CGGTAAAGGTTTATTGCTGGGCGAGCTAAAACTGTACCTCGTGTTGACCG

AAGAGCCCGGACCATCACAACAACCGGATCCATCAATTCCCGGAAATCAA 200
TTCTCGGGCCTGGTAGTGTTGTTGGCCTAGGTAGTTAAGGGCCTTTAGTT

CACAGTCCGCCACAGGAATATTATGATATTGATGGTCAACGAGACGTAAG 250
GTGTCAGGCGGTGTCCTTATAATACTATAACTACCAGTTGCTCTGCATTC

CACCTTACACTCCCTGCTCAACCACAACAACGACGACTTCTTCTCAATGC 300
GTGGAATGTGAGGGACGAGTTGGTGTTGTTGCTGCTGAAGAAGAGTTACG

GATTTTCCCCGCCAAACTTTGATCTCGGCGGAGGCCGTGGACCTTCTCTA 350
CTAAAAGGGGCGGTTTGAAACTAGAGCCGCCTCCGGCACCTGGAAGAGAT

GCCGCCACCCAACAATTATCTGGAGAAGGTCCTGCAAGTATGCTTAACCC 400
CGGCGGTGGGTTGTTAATAGACCTCTTCCAGGACGTTCATACGAATTGGG

CTTACAAACATCTCCACCAAGTGGAGGTTACCCCCCGGCAGATGCCTACA 450
GAATGTTTGTAGAGGTGGTTCACCTCCAATGGGGGGCCGTCTACGGATGT

GACCTCTATCACTTGCTCAACAACTCGCCGCGCCAGCGATGACTCCACAT 500
CTGGAGATAGTGAACGAGTTGTTGAGCGGCGCGGTCGCTACTGAGGTGTA

CAGGCAGCGTCGCTTTTTGTTAATACTAATGGAATTGATCAAAAGAATTT 550
GTCCGTCGCAGCGAAAAACAATTATGATTACCTTAACTAGTTTTCTTAAA

CACTCATGCAATGCTATCTTCACCACACCATACCTCAATGACTTCTCAAC 600
GTGAGTACGTTACGATAGAAGTGGTGTGGTATGGAGTTACTGAAGAGTTG

CATATACAGAAGCCATGGGACATATCAACGGGTACATGTCTCCATACGAC 650
GTATATGTCTTCGGTACCCTGTATAGTTGCCCATGTACAGAGGTATGCTG

CAAGCTCAAGGCCCATCAGGACCATCATATTACTCACAACACCATCAATC 700
GTTCGAGTTCCGGGTAGTCCTGGTAGTATAATGAGTGTTGTGGTAGTTAG

TCCACCACCTCATCACCACCATCACCACCCGATGCCAAAAATCCATGAGA 750
AGGTGGTGGAGTAGTGGTGGTAGTGGTGGGCTACGGTTTTTAGGTACTCT

ACCCTGAACAAGTGGCATCTCCATCGATTGAAGATGCTCCAGAGACGAAA 800
TGGGACTTGTTCACCGTAGAGGTAGCTAACTTCTACGAGGTCTCTGCTTT

FIG. 3A

CCAACTCATTTGGTTGAACCACAAAGTCCAAAAAGCCCGCAGAATATGAA 850
GGTTGAGTAAACCAACTTGGTGTTTCAGGTTTTTCGGGCGTCTTATACTT

AGAGGAGCTTCTTCGGTTACTAGTTAACATGTCTCCGAGTGAAGTTGAAC 900
TCTCCTCGAAGAAGCCAATGATCAATTGTACAGAGGCTCACTTCAACTTG

GGTTAAAGAATAAAAAATCAGGAGCATGTTCAGCGACGAATGGGCCATCG 950
CCAATTTCTTATTTTTTAGTCCTCGTACAAGTCGCTGCTTACCCGGTAGC

AGGAGTAAGGAGAAGGCGGCGAAGATTGTGATTCAGGAGACAGCGGAAGG 1000
TCCTCATTCCTCTTCCGCCGCTTCTAACACTAAGTCCTCTGTCGCCTTCC

GGATGAAGATGAGGATGATGAGGATAGTGATTCCGGGGAGACTATGTCTC 1050
CCTACTTCTACTCCTACTACTCCTATCACTAAGGCCCCTCTGATACAGAG

AGGGAACTACTATTATTGTTCGAAGACCAAAAACCGAGCGTCGTACGGCA 1100
TCCCTTGATGATAATAACAAGCTTCTGGTTTTTGGCTCGCAGCATGCCGT

CACAATCTCATCGAAAAGAAGTATAGATGCTCAATAAATGATCGAATTCA 1150
GTGTTAGAGTAGCTTTTCTTCATATCTACGAGTTATTTACTAGCTTAAGT

ACAGCTGAAAGTACTTTTGTGTGGGGATGAAGCTAAGCTTTCAAAATCGG 1200
TGTCGACTTTCATGAAAACACACCCCTACTTCGATTCGAAAGTTTTAGCC

CAACACTACGACGGGCTATTGAACATATCGAGGAGGTTGAACACGAGAAT 1250
GTTGTGATGCTGCCCGATAACTTGTATAGCTCCTCCAACTTGTGCTCTTA

CAGGTGTTGAAGCATCATGTTGAACAAATGAGAAAGACACTGCAGAATAA 1300
GTCCACAACTTCGTAGTACAACTTGTTTACTCTTTCTGTGACGTCTTATT

TCGATTACCGTACCCGGAACCAATTCAATACACTGAATACTCTGCCCGAT 1350
AGCTAATGGCATGGGCCTTGGTTAAGTTATGTGACTTATGAGACGGGCTA

CACCCGTCGAATCATCTCCTTCTCCACCTAGAAATGAGAGAAAACGATCA 1400
GTGGGCAGCTTAGTAGAGGAAGAGGTGGATCTTTACTCTCTTTTGCTAGT

CGAATGAGCACAACGACTCCTATGAAGAATGGAACTAGAGATGGATCTTC 1450
GCTTACTCGTGTTGCTGAGGATACTTCTTACCTTGATCTCTACCTAGAAG

GAAAGTTACCCTTTTTGCGATGCTCCTAGCAGTTCTGATTTTTAATCCGA 1500
CTTTCAATGGGAAAAACGCTACGAGGATCGTCAAGACTAAAAATTAGGCT

TTGGATTGCTCGCTGGAAGTGCGATATTCTCAAAAGCCGCTGCAGAAGCT 1550
AACCTAACGAGCGACCTTCACGCTATAAGAGTTTTCGGCGACGTCTTCGA

CCGATTGCCTCCCCGTTCGAGCATGGAAGAGTGATTGATGACCCGGATGG 1600
GGCTAACGGAGGGGCAAGCTCGTACCTTCTCACTAACTACTGGGCCTACC

FIG. 3B

```
AACTAGCACTCGGACGCTTTTCTGGGAAGGGAGTATCATCAATATGAGCT    1650
TTGATCGTGAGCCTGCGAAAAGACCCTTCCCTCATAGTAGTTATACTCGA

ATGTCTGGGTGTTCAACATCTTAATGATCATATATGTGGTTGTCAAACTG    1700
TACAGACCCACAAGTTGTAGAATTACTAGTATATACACCAACAGTTTGAC

CTGATCCATGGTGACCCTGTTCAAGACTTCATGTCCGTTTCATGGCAGAC    1750
GACTAGGTACCACTGGGACAAGTTCTGAAGTACAGGCAAAGTACCGTCTG

TTTTGTGACGACTCGAGAGAAGGCGAGAGCCGAGTTGAACTCTGGAAATT    1800
AAAACACTGCTGAGCTCTCTTCCGCTCTCGGCTCAACTTGAGACCTTTAA

TGAAAGATGCTCAGAGAAAGTTCTGCGAGTGTCTTGCAACGTTGGATCGA    1850
ACTTTCTACGAGTCTCTTTCAAGACGCTCACAGAACGTTGCAACCTAGCT

TCGCTTCCATCACCGGGGGTTGATTCGGTGTTTTCGGTTGGCTGGGAATG    1900
AGCGAAGGTAGTGGCCCCCAACTAAGCCACAAAAGCCAACCGACCCTTAC

CGTTCGACATCTTTTGAATTGGTTGTGGATCGGGAGATACATCGCAAGAA    1950
GCAAGCTGTAGAAAACTTAACCAACACCTAGCCCTCTATGTAGCGTTCTT

GGCGCAGGTCCACCACGAAGCCTGTCTCAGTCGTTTGTAGGAGTCATGCG    2000
CCGCGTCCAGGTGGTGCTTCGGACAGAGTCAGCAAACATCCTCAGTACGC

CAGACTGCAGTTCTCTATCATGAAATTCATCAGCTCCATCTAATGGGTAT    2050
GTCTGACGTCAAGAGATAGTACTTTAAGTAGTCGAGGTAGATTACCCATA

CACTGGAAACTTCGAAGACACCTATGAACCATCCGCCCTAACGGGCCTCT    2100
GTGACCTTTGAAGCTTCTGTGGATACTTGGTAGGCGGGATTGCCCGGAGA

TCATGTCCCTCTGTGCAGTAAACCTTGCTGAAGCTGCCGGAGCATCAAAC    2150
AGTACAGGGAGACACGTCATTTGGAACGACTTCGACGGCCTCGTAGTTTG

GACGGACTTCCACGCGCCGTCATGGCTCAGATCTACATTTCTGCATCCAT    2200
CTGCCTGAAGGTGCGCGGCAGTACCGAGTCTAGATGTAAAGACGTAGGTA

CCAATGCCGTTTGGCTCTTCCGAACCTACTCGCACCATTCTTCTCGGGAT    2250
GGTTACGGCAAACCGAGAAGGCTTGGATGAGCGTGGTAAGAAGAGCCCTA

ACTTTTTACGAAGAGCTCGAAGGCACGTGCGTCGAGCTCCGGAGCACTCG    2300
TGAAAAATGCTTCTCGAGCTTCCGTGCACGCAGCTCGAGGCCTCGTGAGC

GTGTCCCATTTGTTATGGATCTTCCATCCAGCGACAAGAAAGTTCATGTC    2350
CACAGGGTAAACAATACCTAGAAGGTAGGTCGCTGTTCTTTCAAGTACAG

AGATGCGAAAAGGTTGGAGCATGTGTTGAGCTCGAAGCAGAAGCAGTTGA    2400
TCTACGCTTTTCCAACCTCGTACACAACTCGAGCTTCGTCTTCGTCAACT
```

FIG. 3C

```
GATTTGGGTCTTTTGTGGAAGATGAGCAATTATCCCCACTTGCTCGAATC      2450
CTAAACCCAGAAAACACCTTCTACTCGTTAATAGGGGTGAACGAGCTTAG

CGAACAACGCTGAAAGTGTACCTACTCTCCAAACTTGTACAGGAACTTGT      2500
GCTTGTTGCGACTTTCACATGGATGAGAGGTTTGAACATGTCCTTGAACA

CGGTGGTGACGAGATCTTTACAAAAAATGTGGAACGCATCCTAAATGACA      2550
GCCACCACTGCTCTAGAAATGTTTTTTACACCTTGCGTAGGATTTACTGT

ATGACCGTCTCGATGATGAAGTAGACGTGGTTGATGTTTCAAGACTTTTG      2600
TACTGGCAGAGCTACTACTTCATCTGCACCAACTACAAAGTTCTGAAAAC

GTGACAATTTCAACGCAGTGCGCTGCCATTTTGACTAATGAGAAGGATGA      2650
CACTGTTAAAGTTGCGTCACGCGACGGTAAAACTGATTACTCTTCCTACT

GTCAGCGAAATTCGGAACCTGGATCTCTCGAAACGGAGATGCTTGTTGCA      2700
CAGTCGCTTTAAGCCTTGGACCTAGAGAGCTTTGCCTCTACGAACAACGT

CATGGTGGACGCACGTTCTGACATGTGGAATCTATTGGAGGAGTAACAAG      2750
GTACCACCTGCGTGCAAGACTGTACACCTTAGATAACCTCCTCATTGTTC

AATGAGCTGGCACGGCAACACTATTCACTGATCAGGAACTGTCCGCCGAA      2800
TTACTCGACCGTGCCGTTGTGATAAGTGACTAGTCCTTGACAGGCGGCTT

GATTTTGACAGACAATCTGGGTTTGGCGGTTGGCCACGCGTTGTGTGCTC      2850
CTAAAACTGTCTGTTAGACCCAAACCGCCAACCGGTGCGCAACACACGAG

GCAAGATTTGCATAGATGACCGAGATTCCCCGAAAGTCAGTCAATACGTG      2900
CGTTCTAAACGTATCTACTGGCTCTAAGGGGCTTTCAGTCAGTTATGCAC

TGCATTCACACAAAGAAGTCGCTCGAATCCCTCCGACTATTCTCCACATC      2950
ACGTAAGTGTGTTTCTTCAGCGAGCTTAGGGAGGCTGATAAGAGGTGTAG

ATCGCGAGCATCAGGTGTGGTGTCTGGAATTCAGGAAGGTACACGCCGAA      3000
TAGCGCTCGTAGTCCACACCACAGACCTTAAGTCCTTCCATGTGCGGCTT

TGGCCTACGAATGGATTATGAACTCGCTGCTCGACGCGTGGCGTTCCAAT      3050
ACCGGATGCTTACCTAATACTTGAGCGACGAGCTGCGCACCGCAAGGTTA

CTATTCGCATCGAAACCCTACTGGACACAAAGCTTCAAGGGACAATCCAC      3100
GATAAGCGTAGCTTTGGGATGACCTGTGTTTCGAAGTTCCCTGTTAGGTG

GTTTAGTACGCTTTATCAAGAGGCGTATAATCATTATGCGATTATTAATG      3150
CAAATCATGCGAAATAGTTCTCCGCATATTAGTAATACGCTAATAATTAC

GGACAAGGGGAGATTGTTGGAGACTATTTGTCTACGAGCTCACGTGCCGA      3200
CCTGTTCCCCTCTAACAACCTCTGATAAACAGATGCTCGAGTGCACGGCT
```

FIG. 3D

```
ATGCTCAACGGAGCCAACCCACAAGCCACGTGGTCAGGCGYCCGACGCGT      3250
TACGAGTTGCCTCGGTTGGGTGTTCGGTGCACCAGTCCGCRGGCTGCGCA

TCGATCTACAAAAATGGACGCGGTCCGAGGAAGAGTGAGCATGCGACGCT      3300
AGCTAGATGTTTTTACCTGCGCCAGGCTCCTTCTCACTCGTACGCTGCGA

CGGCTCAACCGGACGCATTTCATCTTCATACACTGGTTAAACTACATACT      3350
GCCGAGTTGGCCTGCGTAAAGTAGAAGTATGTGACCAATTTGATGTATGA

TCTATGGATCTTTGAATTGAACAAAAAATGATTTTATTCAGAATAATGAT      3400
AGATACCTAGAAACTTAACTTGTTTTTTACTAAAATAAGTCTTATTACTA

AAATACGATTATATATAAA
TTTATGCTAATATATATTT
```

FIG. 3E

MNEEFEGDVPMSDPFLSLVTKLDDIAPFPNNDPLDFDMEHNWQEPGPSQQ 50

PDPSIPGNQHSPPQEYYDIDGQRDVSTLHSLLNHNNDDFFSMRFSPPNFD 100

LGGGRGPSLAATQQLSGEGPASMLNPLQTSPPSGGYPPADAYRPLSLAQQ 150

LAAPAMTPHQAASLFVNTNGIDQKNFTHAMLSSPHHTSMTSQPYTEAMGH 200

INGYMSPYDQAQGPSGPSYYSQHHQSPPPHHHHHHPMPKIHENPEQVASP 250

SIEDAPETKPTHLVEPQSPKSPQNMKEELLRLLVNMSPSEVERLKNKKSG 300

ACSATNGPSRSKEKAAKIVIQETAEGDEDEDDEDSDSGETMSQGTTIIVR 350

RPKTERRTAHNLIEKKYRCSINDRIQQLKVLLCGDEAKLSKSATLRRAIE 400

HIEEVEHENQVLKHHVEQMRKTLQNNRLPYPEPIQYTEYSARSPVESSPS 450

PPRNERKRSRMSTTTPMKNGTRDGSSKVTLFAMLLAVLIFNPIGLLAGSA 500

IFSKAAAEAPIASPFEHGRVIDDPDGTSTRTLFWEGSIINMSYVWVFNIL 550

MIIYVVVKLLIHGDPVQDFMSVSWQTFVTTREKARAELNSGNLKDAQRKF 600

CECLATLDRSLPSPGVDSVFSVGWECVRHLLNWLWIGRYIARRRRSTTKP 650

VSVVCRSHAQTAVLYHEIHQLHLMGITGNFEDTYEPSALTGLFMSLCAVN 700

LAEAAGASNDGLPRAVMAQIYISASIQCRLALPNLLAPFFSGYFLRRARR 750

HVRRAPEHSVSHLLWIFHPATRKFMSDAKRLEHVLSSKQKQLRFGSFVED 800

EQLSPLARIRTTLKVYLLSKLVQELVGGDEIFTKNVERILNDNDRLDDEV 850

DVVDVSRLLVTISTQCAAILTNEKDESAKFGTWISRNGDACCTWWTHVLT 900

CGIYWRSNKNELARQHYSLIRNCPPKILTDNLGLAVGHALCARKICIDDR 950

DSPKVSQYVCIHTKKSLESLRLFSTSSRASGVVSGIQEGTRRMAYEWIMN 1000

SLLDAWRSNLFASKPYWTQSFKGQSTFSTLYQEAYNHYAIINGTRGDCWR 1050

LFVYELTCRMLNGANPQATWSGXRRVRSTKMDAVRGRVSMRRSAQPDAFH 1100

LHTLVKLHTSMDL

FIG. 4

```
CGGCACGAGGATTAATGCTGATTTCTGGTCTGGACTACACAGCATTGCTG      50
GCCGTGCTCCTAATTACGACTAAAGACCAGACCTGATGTGTCGTAACGAC

GTATAAGGAGTCGGGACCAGAGGAGTAAGATTTCGGGAAGGAATCCCGTC     100
CATATTCCTCAGCCCTGGTCTCCTCATTCTAAAGCCCTTCCTTAGGGCAG

CGGTAGGGACTACTAGCATTCGCAAGTGACGTCCAGCAACCGGAGGACCC     150
GCCATCCCTGATGATCGTAAGCGTTCACTGCAGGTCGTTGGCCTCCTGGG

CCAACTGTAGAATCCGCATCACCATCCTAATCCCAACAAACCAATGACAT     200
GGTTGACATCTTAGGCGTAGTGGTAGGATTAGGGTTGTTTGGTTACTGTA

CTTGAGACCTCACCAGCCATGGATCCCTTCGTGTTCTTCATAGTACTGGC     250
GAACTCTGGAGTGGTCGGTACCTAGGGAAGCACAAGAAGTATCATGACCG

ATCGCTTTATGGCGTTCTTTACTTTTTCGACCGCTTCTTCAAGAGTTGCA     300
TAGCGAAATACCGCAAGAAATGAAAAAGCTGGCGAAGAAGTTCTCAACGT

TGCACTACCCGTACGATGCCTTCCTCAAGAACACCGGGCTGAGTATAAAT     350
ACGTGATGGGCATGCTACGGAAGGAGTTCTTGTGGCCCGACTCATATTTA

TTCATGAGCCTCCACTGGCACACGAGTGCCTTTAACAGGACCCTCCTACG     400
AAGTACTCGGAGGTGACCGTGTGCTCACGGAAATTGTCCTGGGAGGATGC

CTGGGGATCTGCCGGTAACAGCTGCACCCGGAGAGTAATGATCACCAGCT     450
GACCCCTAGACGGCCATTGTCGACGTGGGCCTCTCATTACTAGTGGTCGA

TTAATGTAGGAGTCCTGGTCACCTTTTCTCTGCTCCCGATCGGTCTGATC     500
AATTACATCCTCAGGACCAGTGGAAAAGAGACGAGGGCTAGCCAGACTAG

CTGCTCATTGCCACTATCTTCAGCAGTGGTGAACAAGACAGCTCTTCGTC     550
GACGAGTAACGGTGATAGAAGTCGTCACCACTTGTTCTGTCGAGAAGCAG

TGTATCCTCGCCCGTTGGAGTCCCTGTGCAGCTGGAAATTCTACTGCCCG     600
ACATAGGAGCGGGCAACCTCAGGGACACGTCGACCTTTAAGATGACGGGC

GCGTCAACTTGCCGTTGGAGGAGATCGGATACTACATCACAACCCTTGTG     650
CGCAGTTGAACGGCAACCTCCTCTAGCCTATGATGTAGTGTTGGGAACAC

CTCTGCTTGGTGGTGCACGAGATGGGACACGCCCTGGCCGCTGTGATGGA     700
GAGACGAACCACCACGTGCTCTACCCTGTGCGGGACCGGCGACACTACCT

GGATGTGCCTGTCACCGGGTTTGGAATAAAGTTCATCTTCTGCCTGCCGT     750
CCTACACGGACAGTGGCCCAAACCTTATTTCAAGTAGAAGACGGACGGCA

TAGCATACACGGAGCTCTCCCACGACCACTTAAACAGTCTACGTTGGTTC     800
ATCGTATGTGCCTCGAGAGGGTGCTGGTGAATTTGTCAGATGCAACCAAG
```

FIG. 5A

```
CGCAAGCTACGTGTTCTGTGCGCTGGAATCTGGCATAATTTTGTGTTCGC     850
GCGTTCGATGCACAAGACACGCGACCTTAGACCGTATTAAAACACAAGCG

TGGCGTGTGCTATCTCTTAATCTCAACGGTGGGAATCACTATGTCACCTT     900
ACCGCACACGATAGAGAATTAGAGTTGCCACCCTTAGTGATACAGTGGAA

TGTACGCTTACAACCAACACGTAGTGGTCACTGAACTAACAAGGAAATCC     950
ACATGCGAATGTTGGTTGTGCATCACCAGTGACTTGATTGTTCCTTTAGG

CCGCTGAGGGGAGAGCGCGGCTTGCAAGTGGACAATCAAATAACCCAAGT    1000
GGCGACTCCCCTCTCGCGCCGAACGTTCACCTGTTAGTTTATTGGGTTCA

AAACGGCTGCCCAGTAAACAGCGAGGAGAGTTGGGTGACATGCCTGCAGA    1050
TTTGCCGACGGGTCATTTGTCGCTCCTCTCAACCCACTGTACGGACGTCT

ACTCTCTGAAGCTCAAGCCGGGCTACTGTGTGAGTGCGGACTTCGTGCAG    1100
TGAGAGACTTCGAGTTCGGCCCGATGACACACTCACGCCTGAAGCACGTC

CTTAACGACGAAAGCAGCGCCATCTCACATCATAGCATTGATGGTCAGCT    1150
GAATTGCTGCTTTCGTCGCGGTAGAGTGTAGTATCGTAACTACCAGTCGA

ACAGTGCTGTGATGAACTAAATCCGAACGTAAGCTGCTTCGAGGTGGTGG    1200
TGTCACGACACTACTTGATTTAGGCTTGCATTCGACGAAGCTCCACCACC

AGGACGCAAATGGAGATGTGCCGGTGGAGCTGCCGCAGCATGTATGTCTC    1250
TCCTGCGTTTACCTCTACACGGCCACCTCGACGGCGTCGTACATACAGAG

AATGTGCGCCGCACTTTGGAGGAGGTCTCCGAGCACTGCTCGTCCGGAGT    1300
TTACACGCGGCGTGAAACCTCCTCCAGAGGCTCGTGACGAGCAGGCCTCA

TTGCAACGAGGGATTCTGCCTACGACCGCTTATACGAAATATCACTGCCA    1350
AACGTTGCTCCCTAAGACGGATGCTGGCGAATATGCTTTATAGTGACGGT

TAATGACGTTCAAGCGACAGAATTTTCGCGGAGAGAAGCTGCCGCCGGTG    1400
ATTACTGCAAGTTCGCTGTCTTAAAAGCGCCTCTCTTCGACGGCGGCCAC

ATCTATGTGGGCCATCCATGGGATGTCACTCGAACTGTGGAGGTATCCGC    1450
TAGATACACCCGGTAGGTACCCTACAGTGAGCTTGACACCTCCATAGGCG

CTTTGTGCCGAGATATAGCTTATTAAAGGCAGCCTGGCCGGATGCCTGGC    1500
GAAACACGGCTCTATATCGAATAATTTCCGTCGGACCGGCCTACGGACCG

TGCTGCTCCTCAAGTATAACGTGGTCTTCAGCATAGGATTGGCGTTGATC    1550
ACGACGAGGAGTTCATATTGCACCAGAAGTCGTATCCTAACCGCAACTAG

AATGCCATTCCCTGCTTTGGTTTCGATGGCGCCCACATTACCAGCACCGT    1600
TTACGGTAAGGGACGAAACCAAAGCTACCGCGGGTGTAATGGTCGTGGCA
```

FIG. 5B

```
GATACACAGCTTCTTGGTGGGCAGAGTGGATCAGCATGCCAAGAGAGATA    1650
CTATGTGTCGAAGAACCACCCGTCTCACCTAGTCGTACGGTTCTCTCTAT

TCATCTCGTTGATAATCACCAGCGTGGGTTCCCTTCTCTTTGCACTGGCC    1700
AGTAGAGCAACTATTAGTGGTCGCACCCAAGGGAAGAGAAACGTGACCGG

CTGCTTAAGGTGGCCTGGTTGAGTTTTCTGCGACCCCTGCTTTAAGAACT    1750
GACGAATTCCACCGGACCAACTCAAAAGACGCTGGGGACGAAATTCTTGA

GAAATGGAAAACTGAAATGGATCCTGGGAGTTCAACTCCCTGCAAAGACG    1800
CTTTACCTTTTGACTTTACCTAGGACCCTCAAGTTGAGGGACGTTTCTGC

CTAGACTGCTATTTCACCTTCACGAAACACACAAAAACACAGCGAATTGT    1850
GATCTGACGATAAAGTGGAAGTGCTTTGTGTGTTTTTGTGTCGCTTAACA

AGCACCTCAAAGATTCGATAGCTTTTTGTCATAGTCCTTAGTCTTAACTC    1900
TCGTGGAGTTTCTAAGCTATCGAAAAACAGTATCAGGAATCAGAATTGAG

GTATTTATTTTCGTACGGTTGTCGAGCTCAAAAATAAAATCAAATTAAGC    1950
CATAAATAAAAGCATGCCAACAGCTCGAGTTTTTATTTTAGTTTAATTCG

TAAAAAAAAAAAAAAAAAAAC
ATTTTTTTTTTTTTTTTTTTG
```

FIG. 5C

MDPFVFFIVLASLYGVLYFFDRFFKSCMHYPYDAFLKNTGLSINFMSLHW 50

HTSAFNRTLLRWGSAGNSCTRRVMITSFNVGVLVTFSLLPIGLILLIATI 100

FSSGEQDSSSSVSSPVGVPVQLEILLPGVNLPLEEIGYYITTLVLCLVVH 150

EMGHALAAVMEDVPVTGFGIKFIFCLPLAYTELSHDHLNSLRWFRKLRVL 200

CAGIWHNFVFAGVCYLLISTVGITMSPLYAYNQHVVVTELTRKSPLRGER 250

GLQVDNQITQVNGCPVNSEESWVTCLQNSLKLKPGYCVSADFVQLNDESS 300

AISHHSIDGQLQCCDELNPNVSCFEVVEDANGDVPVELPQHVCLNVRRTL 350

EEVSEHCSSGVCNEGFCLRPLIRNITAIMTFKRQNFRGEKLPPVIYVGHP 400

WDVTRTVEVSAFVPRYSLLKAAWPDAWLLLLKYNVVFSIGLALINAIPCF 450

GFDGAHITSTVIHSFLVGRVDQHAKRDIISLIITSVGSLLFALALLKVAW 500

LSFLRPLL

FIG. 6

```
GTGTGCCTGACTGTTTTGTAGGTGTAAGGAGGGGCGTGGCCAAATAGTTT      50
CACACGGACTGACAAAACATCCACATTCCTCCCCGCACCGGTTTATCAAA

TTGGTATACGGATAGAATTTGGATGAAAAATAAAACGAAATCAAAACATT     100
AACCATATGCCTATCTTAAACCTACTTTTTATTTTGCTTTAGTTTTGTAA

TTTCAAAAGCGTGGAAGTTTTGGCCGGCTTGTGGGCATGGCAAAACGTTT     150
AAAGTTTTCGCACCTTCAAAACCGGCCGAACACCCGTACCGTTTTGCAAA

TTTGGCTATCCGTTAATCAACATACCGTTGCCCGGGACAATACCCACCAA     200
AAACCGATAGGCAATTAGTTGTATGGCAACGGGCCCTGTTATGGGTGGTT

GATCGTTGTACCCTACGAAACTGGATCCGGATCGCTGTCATGGCACTCTC     250
CTAGCAACATGGGATGCTTTGACCTAGGCCTAGCGACAGTACCGTGAGAG

TTAATACATCCTCGACTACACCGCAGGAACCGCACCCTTCCGGCGAACCC     300
AATTATGTAGGAGCTGATGTGGCGTCCTTGGCGTGGGAAGGCCGCTTGGG

TGGCCCCCCGAACCACAGGTACTCAATAGCAGTACCACGGACCGCAGCCC     350
ACCGGGGGGCTTGGTGTCCATGAGTTATCGTCATGGTGCCTGGCGTCGGG

GCCTCCCCTTCTGCCCTGGGCGCAGAGCAGCCCCGCCTTTTTCTACGTCC     400
CGGAGGGGAAGACGGGACCCGCGTCTCGTCGGGGCGGAAAAAGATGCAGG

AGCAGATTACTCTGCGAACCAGTGTTCTCCCGTGGACGGAGGGAATGCAG     450
TCGTCTAATGAGACGCTTGGTCACAAGAGGGCACCTGCCTCCCTTACGTC

CTTATGGATGCGTTTCGTGCGCCGCTACACGAAGTTTTTAAATTGCTTGA     500
GAATACCTACGCAAAGCACGCGGCGATGTGCTTCAAAAATTTAACGAACT

AATTGTGCGCAATCACCAGAGCAGCGAAAACAAACGTACCCTGGAGCACA     550
TTAACACGCGTTAGTGGTCTCGTCGCTTTTGTTTGCATGGGACCTCGTGT

ACTGCCTACATGTAGACAACGTAAAGCGCGGAACACACGGGCAGCTGGAC     600
TGACGGATGTACATCTGTTGCATTTCGCGCCTTGTGTGCCCGTCGACCTG

CAGATCTTTCCGGAGTATGGCTGCCTGCTGCTCTCGCCCGCCAACCTGTG     650
GTCTAGAAAGGCCTCATACCGACGGACGACGAGAGCGGGCGGTTGGACAC

GACGCAGAACTCTCAGAACTTTACTCGGGACACAAACATCCTGAACACGA     700
CTGCGTCTTGAGAGTCTTGAAATGAGCCCTGTGTTTGTAGGACTTGTGCT

TATTTCAGTACCATAACCTACAGAAATCAAAAGTTTCCGCGGCGGAAATG     750
ATAAAGTCATGGTATTGGATGTCTTTAGTTTTCAAAGGCGCCGCCTTTAC

CTGTTTGGATTACCCATGCAGGACACTGGATTCAAGCGCTATCCATTGCG     800
GACAAACCTAATGGGTACGTCCTGTGACCTAAGTTCGCGATAGGTAACGC
```

FIG. 7A

```
CGCTCGGTCGCGTATTATACAGTATGCCTTGACGTTATTCCTCAAGCACA      850
GCGAGCCAGCGCATAATATGTCATACGGAACTGCAATAAGGAGTTCGTGT

ACGATATGGAGTATCTGGACACTCTAAAGGAAAAGCTGCTGCGACACTAT      900
TGCTATACCTCATAGACCTGTGAGATTTCCTTTTCGACGACGCTGTGATA

CCCCCACTCCCGTTGGCTAGTGCGTCGGCTGAAGAGCCGACGACCATAAC      950
GGGGGTGAGGGCAACCGATCACGCAGCCGACTTCTCGGCTGCTGGTATTG

TTACATCTTTTATCCAGGAGAGTACAGGATGTGGGAGCTGGTGCCTTACA     1000
AATGTAGAAAATAGGTCCTCTCATGTCCTACACCCTCGACCACGGAATGT

CAGTGGCCTTTATGTTGGTGTTTGCTTATGTGTACTTCTCTGTTCGAAAA     1050
GTCACCGGAAATACAACCACAAACGAATACACATGAAGAGACAAGCTTTT

ATCGATGTATTTCGTTCCCGCTTTTTGCTGGCCTTATGTAGCGTAATCAC     1100
TAGCTACATAAAGCAAGGGCGAAAAACGACCGGAATACATCGCATTAGTG

CACAGCCGGGAGCTTGGCCATGTCCCTTGGCTTGTGTTTCTTCTTTGGCC     1150
GTGTCGGCCCTCGAACCGGTACAGGGAACCGAACACAAAGAAGAAACCGG

TGACAATTTCGCTGCAGTCAAAGGACATTTTCCCCTACCTTGTAATCCTT     1200
ACTGTTAAAGCGACGTCAGTTTCCTGTAAAAGGGGATGGAACATTAGGAA

GTGGGATTGGAAAATAGCTTGGTGATCACAAAGAGCGTAGTCTCAATGGA     1250
CACCCTAACCTTTTATCGAACCACTAGTGTTTCTCGCATCAGAGTTACCT

CGAGACATTCGACGTGAAGATCCGCGTGGCGCAGGCTCTTAGCAAGGAGG     1300
GCTCTGTAAGCTGCACTTCTAGGCGCACCGCGTCCGAGAATCGTTCCTCC

GTTGGCATATATCCAAGACTCTTTTGACGGAGATAACAATTTTGACAATT     1350
CAACCGTATATAGGTTCTGAGAAAACTGCCTCTATTGTTAAAACTGTTAA

GGTCTTGCTACTTTCGTGCCCGTCATCCAGGAGTTTTGTATCTTTGCCAT     1400
CCAGAACGATGAAAGCACGGGCAGTAGGTCCTCAAAACATAGAAACGGTA

AGTCGGCTTGCTTTCCGATTTTATGCTACAGATGCTGCTCTTCTCAACAA     1450
TCAGCCGAACGAAAGGCTAAAATACGATGTCTACGACGAGAAGAGTTGTT

TACTGGCCATGAACATTAAGCGGACCGAGTATACGGCGGAGGCCAAGCAC     1500
ATGACCGGTACTTGTAATTCGCCTGGCTCATATGCCGCCTCCGGTTCGTG

CTTCCTAAGATGTTGCTGAGCTGCACCCAAGGGGCTGGTCGACAGGATTT     1550
GAAGGATTCTACAACGACTCGACGTGGGTTCCCCGACCAGCTGTCCTAAA

CCGATTTTTCGGGGCCGCCCCAGCACTGCCACCGTTTGTCCCTGGCACAT     1600
GGCTAAAAAGCCCCGGCGGGGTCGTGACGGTGGCAAACAGGGACCGTGTA
```

FIG. 7B

```
TTCAGCGTTCTCAGTCGCATCCAAAACTGTGTTTTGCTGATCCCGCATCT    1650
AAGTCGCAAGAGTCAGCGTAGGTTTTGACACAAAACGACTAGGGCGTAGA

GTTAGCGATCGTACAAGCTTGGTTAATGGACACTCGTCGCCGGAGCAACG    1700
CAATCGCTAGCATGTTCGAACCAATTACCTGTGAGCAGCGGCCTCGTTGC

AATACCCAAACGCATAAAGATTGTAAATTTCTGGGCGCGGACTCGCTTTT    1750
TTATGGGTTTGCGTATTTCTAACATTTAAAGACCCGCGCCTGAGCGAAAA

TTCAGCGTGCCTTCATGATCTGGATGATTGTGTGGATATGCTCTATAGTT    1800
AAGTCGCACGGAAGTACTAGACCTACTAACACACCTATACGAGATATCAA

TATAATTCGGGATATCTGGAGCAGTTGTTTAGCATGCAGAGCAACGGCAC    1850
ATATTAAGCCCTATAGACCTCGTCAACAAATCGTACGTCTCGTTGCCGTG

AATGACGGCAACCCTTGAACTTCAACGGCGACTACAGGCGGGTCGGGGAG    1900
TTACTGCCGTTGGGAACTTGAAGTTGCCGCTGATGTCCGCCCAGCCCCTC

CAGTCAGCAGTTTTTTCGAGGGATGGCAAGCGGACGGGCAGCGTGCCACG    1950
GTCAGTCGTCAAAAAAGCTCCCTACCGTTCGCCTGCCCGTCGCACGGTGC

AGTGCGCCAAGCGGAAGCGGCTTTTCTACGCCAATAAAAGCTCCTCTAGC    2000
TCACGCGGTTCGCCTTCGCCGAAAAGATGCGGTTATTTTCGAGGAGATCG

GATCGATATAAACGAAACGGCCGAGGAAATGATGAGACTTCGATATCCCA    2050
CTAGCTATATTTGCTTTGCCGGCTCCTTTACTACTCTGAAGCTATAGGGT

GCTTCGACCTAAACTATTTCCTTTCAAACTTCCACTGGTCCACGATTATG    2100
CGAAGCTGGATTTGATAAAGGAAAGTTTGAAGGTGACCAGGTGCTAATAC

AAACAGTACAACATCTCACTAAGTGGGCACTACGTTACCCTGCTACCGAC    2150
TTTGTCATGTTGTAGAGTGATTCACCCGTGATGCAATGGGACGATGGCTG

CATTCGCCTTAGTCATGCCATCGCTCCGGAGCTAGCCACTCTGTTGCGGA    2200
GTAAGCGGAATCAGTACGGTAGCGAGGCCTCGATCGGTGAGACAACGCCT

ATCCGCAGGAGCAGCTGCAACAAAATTTTCAATGGAAGGCCCTAGCCGCT    2250
TAGGCGTCCTCGTCGACGTTGTTTTAAAAGTTACCTTCCGGGATCGGCGA

GCACTCGATCCGCTGGACTTTAACGATGACGACGTGCGCCGTGAGTCTCC    2300
CGTGAGCTAGGCGACCTGAAATTGCTACTGCTGCACGCGGCACTCAGAGG

GATGGTAATGGCAGAGGGGTTGCCTCTGGTTCCCAAGAGCCCCATGGAAA    2350
CTACCATTACCGTCTCCCCAACGGAGACCAAGGGTTCTCGGGGTACCTTT

TATTTTTCGCCATCCTCTTGTGCTGCATCAGCATCTTCGTGCTTTGCTAC    2400
ATAAAAAGCGGTAGGAGAACACGACGTAGTCGTAGAAGCACGAAACGATG
```

FIG. 7C

```
ACGATGGTGGTTTTCTACCGCTGCATATGTACCAGGAACTATGCCGAGTG      2450
TGCTACCACCAAAAGATGGCGACGTATACATGGTCCTTGATACGGCTCAC

GCGCTCCAGTTGGCACGAATCTGAGGCACCGTACAAGCAGACTGAGCAAA      2500
CGCGAGGTCAACCGTGCTTAGACTCCGTGGCATGTTCGTCTGACTCGTTT

TCCTGGAGGGAGTTCCAACGCAAATCGCCGGACACAAACATCGCATTGAA      2550
AGGACCTCCCTCAAGGTTGCGTTTAGCGGCCTGTGTTTGTAGCGTAACTT

TGCCTGGTGTCTGACGGCGCCTACATAATCAGCTGCTGCCTTAAAGGCCA      2600
ACGGACCACAGACTGCCGCGGATGTATTAGTCGACGACGGAATTTCCGGT

AATCCGAGTGTGGGATGCACGCAGTGGCGAGCAGCTAACCAGCATCTCCC      2650
TTAGGCTCACACCCTACGTGCGTCACCGCTCGTCGATTGGTCGTAGAGGG

GATCCGATATTCAGATCTCTCAGCAGCGGACGGATGGGCAGACGCTGGTA      2700
CTAGGCTATAAGTCTAGAGAGTCGTCGCCTGCCTACCCGTCTGCGACCAT

CGAAAGCTGGCCGTGTCACCGGTCTGGTGCCTTGACTACTTCGATAATCT      2750
GCTTTCGACCGGCACAGTGGCCAGACCACGGAACTGATGAAGCTATTAGA

AATCGCAGTAGGCTGCGCCAACGGCCGCGTAGAATTGTGGGAATCCCCTG      2800
TTAGCGTCATCCGACGCGGTTGCCGGCGCATCTTAACACCCTTAGGGGAC

CGGGATTGCTTAAGTGTGCATACCAGGAAGACGCGAAGAGAAACCAGGGT      2850
GCCCTAACGAATTCACACGTATGGTCCTTCTGCGCTTCTCTTTGGTCCCA

ATAACCCACATCCACCTGAACGGCGATCGAGTGATTGTGGCGCGTCTTAA      2900
TATTGGGTGTAGGTGGACTTGCCGCTAGCTCACTAACACCGCGCAGAATT

TGGCCGACTAGATTTTTACCGCTTAGAGACGTACTACAAGGGGAAGCAAA      2950
ACCGGCTGATCTAAAAATGGCGAATCTCTGCATGATGTTCCCCTTCGTTT

TCGACTGGGGTTTTACCTCGGCTTACAGGAGAACTCATGTTCGAACTGGA      3000
AGCTGACCCCAAAATGGAGCCGAATGTCCTCTTGAGTACAAGCTTGACCT

TCCACTGGAAGCCTGGGATTAATGTTGCAGCAGCAGCGCTGTCAGCAAGA      3050
AGGTGACCTTCGGACCCTAATTACAACGTCGTCGTCGCGACAGTCGTTCT

AGCATCCCAGAAGACCACCAAGGAGGAAATGAAAATCACATTGGAGGGTG      3100
TCGTAGGGTCTTCTGGTGGTTCCTCCTTTACTTTTAGTGTAACCTCCCAC

TAAGACTAGCCCATCAGCAGCCAATCACATGCATGCAGGTCGTTAACGAC      3150
ATTCTGATCGGGTAGTCGTCGGTTAGTGTACGTACGTCCAGCAATTGCTG

ATGGTTTTCACTGGCAGCCAGGATCACACCCTCAAGGTGTATTGCCTCAA      3200
TACCAAAAGTGACCGTCGGTCCTAGTGTGGGAGTTCCACATAACGGAGTT
```

FIG. 7D

```
TAAGTCGGATGTTGAGTATACGCTCCACGGTCACTGTGGGCCTGTAACCT      3250
ATTCAGCCTACAACTCATATGCGAGGTGCCAGTGACACCCGGACATTGGA

GTCTCTTTGTGGATCGCTGGCAACCTGGCACAGGGGGGTCTGGGTCCCAG      3300
CAGAGAAACACCTAGCGACCGTTGGACCGTGTCCCCCCAGACCCAGGGTC

GACGGCCTGCTCTGCGTATGGGATCTGTTCACGGGAGCCTGCATGTATAA      3350
CTGCCGGACGAGACGCATACCCTAGACAAGTGCCCTCGGACGTACATATT

TATACAAGCTCACGACGGAGCCGTCAGCTGCCTGGCCTGTGCGCCCAGTT      3400
ATATGTTCGAGTGCTGCCTCGGCAGTCGACGGACCGGACACGCGGGTCAA

ACGTAATCTCGCTAGGCACGGACGAGAGGATTTGCGTATGGGAACGATTT      3450
TGCATTAGAGCGATCCGTGCCTGCTCTCCTAAACGCATACCCTTGCTAAA

CAGGGAAACCTGTTGACTACCATCAACATCTCAAACGCATACTCGAGCCT      3500
GTCCCTTTGGACAACTGATGGTAGTTGTAGAGTTTGCGTATGAGCTCGGA

ACTGATGCTAACACCGTCACTATTGGTTACGAGCAAAATGGGTAAGGCCT      3550
TGACTACGATTGTGGCAGTGATAACCAATGCTCGTTTTACCCATTCCGGA

CATTCTTGATTGCCAATATAAGAGGGACAGTAAATAATAAATTTAATTCC      3600
GTAAGAACTAACGGTTATATTCTCCCTGTCATTTATTATTTAAATTAAGG

AACACAGGATCTCTTATTGTGTGGGATGTGCGCACTGGGCAGCCGGCTCG      3650
TTGTGTCCTAGAGAATAACACACCCTACACGCGTGACCCGTCGGCCGAGC

CGAGGTCAAACTGGACTTTGCAAACCTGCAGCTCTGTCCCAAAATAATGA      3700
GCTCCAGTTTGACCTGAAACGTTTGGACGTCGAGACAGGGTTTTATTACT

TGCTTGCCTGCGATTCGGTAGTTTGCGACTACGGAAATGAGATCCGCGTC      3750
ACGAACGGACGCTAAGCCATCAAACGCTGATGCCTTTACTCTAGGCGCAG

GTCCGCTTTCCTATCGTGGCAGACAAGTGCCATTAAAGCGCAAAATTTTA      3800
CAGGCGAAAGGATAGCACCGTCTGTTCACGGTAATTTCGCGTTTTAAAAT

ATTTAGCGTGGTTCGCTAGCACCTAGGAATAAGTTGACTTAAGGCTTTAA      3850
TAAATCGCACCAAGCGATCGTGGATCCTTATTCAACTGAATTCCGAAATT

AACGCCTGGAAGTCATTGACGCATTCACTATTTTATATAAATATATACAC      3900
TTGCGGACCTTCAGTAACTGCGTAAGTGATAAAATATATTTATATATGTG

TATTAGGGTCCGCAGCAACTTACGGTTTTAACACAAGCTGTACGTATCTC      3950
ATAATCCCAGGCGTCGTTGAATGCCAAAATTGTGTTCGACATGCATAGAG

ATCTCTAGAATTTTGTGTTAGTTTGTGGACACTAAGTGTAACAGCTACGC      4000
TAGAGATCTTAAAACACAATCAAACACCTGTGATTCACATTGTCGATGCG
```

FIG. 7E

```
TCCGGTAGGTTAAGGAACTAAACTAAATGAATCAGATATATACACATATA     4050
AGGCCATCCAATTCCTTGATTTGATTTACTTAGTCTATATATGTGTATAT

TTTTCGCGTAATTATATAAACTACATAGTGTCTTAAAGCGCCTCAGCCTA     4100
AAAAGCGCATTAATATATTTGATGTATCACAGAATTTCGCGGAGTCGGAT

ATATAAAATGACTAAATGTTAAAATAAA
TATATTTTACTGATTTACAATTTTATTT
```

FIG. 7F

MKNKTKSKHFSKAWKFWPACGHGKTFFGYPLINIPLPGTIPTKIVVPYET 50

GSGSLSWHSLNTSSTTPQEPHPSGEPWPPEPQVLNSSTTDRSPPPLLPWA 100

QSSPAFFYVQQITLRTSVLPWTEGMQLMDAFRAPLHEVFKLLEIVRNHQS 150

SENKRTLEHNCLHVDNVKRGTHGQLDQIFPEYGCLLLSPANLWTQNSQNF 200

TRDTNILNTIFQYHNLQKSKVSAAEMLFGLPMQDTGFKRYPLRARSRIIQ 250

YALTLFLKHNDMEYLDTLKEKLLRHYPPLPLASASAEEPTTITYIFYPGE 300

YRMWELVPYTVAFMLVFAYVYFSVRKIDVFRSRFLLALCSVITTAGSLAM 350

SLGLCFFFGLTISLQSKDIFPYLVILVGLENSLVITKSVVSMDETFDVKI 400

RVAQALSKEGWHISKTLLTEITILTIGLATFVPVIQEFCIFAIVGLLSDF 450

MLQMLLFSTILAMNIKRTEYTAEAKHLPKMLLSCTQGAGRQDFRFFGAAP 500

ALPPFVPGTFQRSQSHPKLCFADPASVSDRTSLVNGHSSPEQRIPKRIKI 550

VNFWARTRFFQRAFMIWMIVWICSIVYNSGYLEQLFSMQSNGTMTATLEL 600

QRRLQAGRGAVSSFFEGWQADGQRATSAPSGSGFSTPIKAPLAIDINETA 650

EEMMRLRYPSFDLNYFLSNFHWSTIMKQYNISLSGHYVTLLPTIRLSHAI 700

APELATLLRNPQEQLQQNFQWKALAAALDPLDFNDDDVRRESPMVMAEGL 750

PLVPKSPMEIFFAILLCCISIFVLCYTMVVFYRCICTRNYAEWRSSWHES 800

EAPYKQTEQILEGVPTQIAGHKHRIECLVSDGAYIISCCLKGQIRVWDAR 850

SGEQLTSISRSDIQISQQRTDGQTLVRKLAVSPVWCLDYFDNLIAVGCAN 900

GRVELWESPAGLLKCAYQEDAKRNQGITHIHLNGDRVIVARLNGRLDFYR 950

LETYYKGKQIDWGFTSAYRRTHVRTGSTGSLGLMLQQQRCQQEASQKTTK 1000

EEMKITLEGVRLAHQQPITCMQVVNDMVFTGSQDHTLKVYCLNKSDVEYT 1050

LHGHCGPVTCLFVDRWQPGTGGSGSQDGLLCVWDLFTGACMYNIQAHDGA 1100

VSCLACAPSYVISLGTDERICVWERFQGNLLTTINISNAYSSLLMLTPSL 1150

LVTSKMGKASFLIANIRGTVNNKFNSNTGSLIVWDVRTGQPAREVKLDFA 1200

NLQLCPKIMMLACDSVVCDYGNEIRVVRFPIVADKCH

FIG. 8

```
GTTTATTAAGCTGCAAATATACTCGTGAAAAAAATCAAAACAACCATGAA      50
CAAATAATTCGACGTTTATATGAGCACTTTTTTTAGTTTTGTTGGTACTT

CAACAAGTGTTGCAACTATTACTAACTAGTCGCTAGTTTAAAGCAAAGTG     100
GTTGTTCACAACGTTGATAATGATTGATCAGCGATCAAATTTCGTTTCAC

CGTTGACATTAACCAGTTATGGAAAAACAAAAGCACACGTGAACTAAGAA     150
GCAACTGTAATTGGTCAATACCTTTTTGTTTTCGTGTGCACTTGATTCTT

AACAGATAGAAGGTGGTAAAGCATTCGCAATGGACACGACACTGATGAAC     200
TTGTCTATCTTCCACCATTTCGTAAGCGTTACCTGTGCTGTGACTACTTG

TTAATAGACGCTCCGCTGGACGAGTCCATGGATTTGTTCAAAGCGGAGGA     250
AATTATCTGCGAGGCGACCTGCTCAGGTACCTAAACAAGTTTCGCCTCCT

TGTCTTCGAACCGTTCGACGCCGACCTGCACTCGGACATGCTGGACATCA     300
ACAGAAGCTTGGCAAGCTGCGGCTGGACGTGAGCCTGTACGACCTGTAGT

TCCTCAACGACATGGACCTGGCGCCGACGCAGATGTACAACATGCTGCTG     350
AGGAGTTGCTGTACCTGGACCGCGGCTGCGTCTACATGTTGTACGACGAC

GACGAGCCTCGAACGCATACCCAGCAGACGCAGTCCGTGGATCAGCAGCC     400
CTGCTCGGAGCTTGCGTATGGGTCGTCTGCGTCAGGCACCTAGTCGTCGG

GCAATCCGTCGAGCAACAGCCGCACGTGAAAAGCGAGCACTCTTCGCCAG     450
CGTTAGGCAGCTCGTTGTCGGCGTGCACTTTTCGCTCGTGAGAAGCGGTC

TGCACATCAAGGAGGAACTGCATCAGCAGCAACAACAGTCGCCGCTTCTC     500
ACGTGTAGTTCCTCCTTGACGTAGTCGTCGTTGTTGTCAGCGGCGAAGAG

GTCTACAAACCAGATCCCCTCATAGCCACAAGCTACAATTGTCCCCAGCA     550
CAGATGTTTGGTCTAGGGGAGTATCGGTGTTCGATGTTAACAGGGGTCGT

ACAGCCGACGGGCCTTTTGAAGGCCGCCCAACCAACAGCCACCATACATC     600
TGTCGGCTGCCCGGAAAACTTCCGGCGGGTTGGTTGTCGGTGGTATGTAG

ACATGGACGCCCAGCGGATGCCGCCGAACACGGCGGTGTATCCCCCATCT     650
TGTACCTGCGGGTCGCCTACGGCGGCTTGTGCCGCCACATAGGGGGTAGA

CTGGGCAGTAGCTTTGTCTACCAGTCCATGTCCCCGCCCACGTCGCCGGT     700
GACCCGTCATCGAAACAGATGGTCAGGTACAGGGGCGGGTGCAGCGGCCA

GGAGTCTGCGAACCAGAATGTCAATGTCATGCAGCCCGTTGCTGCAACTC     750
CCTCAGACGCTTGGTCTTACAGTTACAGTACGTCGGGCAACGACGTTGAG

CTGCTCCCGCTTCTGCTCCTTTGCCCCAGCAGTCGTATCCGCAACCCTTC     800
GACGAGGGCGAAGACGAGGAAACGGGGTCGTCAGCATAGGCGTTGGGAAG
```

FIG. 9A

```
ATTACGTACAACTCTAAGGCCGGAATGACTTCCGATGAAGCCATGTACTT      850
TAATGCATGTTGAGATTCCGGCCTTACTGAAGGCTACTTCGGTACATGAA

GCTCTTGCAGCCCACGGTAGCCAGTCCAACCCCATCTCCACCTGTGGCTC      900
CGAGAACGTCGGGTGCCATCGGTCAGGTTGGGGTAGAGGTGGACACCGAG

CACCACCGACAAGCACAGGTAGTCGGGCCAGCAAGGTGCGAGTGGCACCA      950
GTGGTGGCTGTTCGTGTCCATCAGCCCGGTCGTTCCACGCTCACCGTGGT

CTGGCTCCGTCACCTGCCGCTATGGAAGTCCAGGGCAAGGTACCTATCAA     1000
GACCGAGGCAGTGGACGGCGATACCTTCAGGTCCCGTTCCATGGATAGTT

CCGGGTTCAACCCAAGGTGAAGGAAGTAAAGCGCTCGGCCCACAACGCCA     1050
GGCCCAAGTTGGGTTCCACTTCCTTCATTTCGCGAGCCGGGTGTTGCGGT

TCGAGCGGCGCTATCGCACCTCAATCAACGACAAGATTAACGAGTTGAAG     1100
AGCTCGCCGCGATAGCGTGGAGTTAGTTGCTGTTCTAATTGCTCAACTTC

AACTTGGTAGTGGGAGAGCAGGCCAAGCTGAACAAGTCCGCAGTGTTGCG     1150
TTGAACCATCACCCTCTCGTCCGGTTCGACTTGTTCAGGCGTCACAACGC

GAAATCCATAGACAAGATTCGGGATCTGCAACGCCAGAATCACGATCTGA     1200
CTTTAGGTATCTGTTCTAAGCCCTAGACGTTGCGGTCTTAGTGCTAGACT

AGGCAGAGTTGCAGCGCCTGCAGAGGGAGCTAATGGCACGCGACGGCTCC     1250
TCCGTCTCAACGTCGCGGACGTCTCCCTCGATTACCGTGCGCTGCCGAGG

AAGGTGAAGGATTTACTTCAGCTGGGCACTCGGCCTGGTAGAGCATCCAA     1300
TTCCACTTCCTAAATGAAGTCGACCCGTGAGCCGGACCATCTCGTAGGTT

GAAGCGCCGCGAGAGCTCGCAGACCTTTACCACGGATGCCGGACTGACGC     1350
CTTCGCGGCGCTCTCGAGCGTCTGGAAATGGTGCCTACGGCCTGACTGCG

CGCCACGCAGCGATGAATCGGATCCTTCGCTCTCGCCCATGCACTCGGAC     1400
GCGGTGCGTCGCTACTTAGCCTAGGAAGCGAGAGCGGGTACGTGAGCCTG

ATCTCGTTGCCGCCATCACCCTATGGTGGATCCACCGCCAGCTGTAGCAG     1450
TAGAGCAACGGCGGTAGTGGGATACCACCTAGGTGGCGGTCGACATCGTC

TGGCAGCAGCAGCAGCAATGAAGAACCACTGGTGGTGCCCAGCTCTATGC     1500
ACCGTCGTCGTCGTCGTTACTTCTTGGTGACCACCACGGGTCGAGATACG

GCGGCATGGCCACCCACTCTCGCCTCGGACTCTGCATGTTTATGTTCGCC     1550
CGCCGTACCGGTGGGTGAGAGCGGAGCCTGAGACGTACAAATACAAGCGG

ATCCTGGCCGTCAATCCCTTCAAGACCTTTCTCCAGCGCGGCCACTATGA     1600
TAGGACCGGCAGTTAGGGAAGTTCTGGAAAGAGGTCGCGCCGGTGATACT
```

FIG. 9B

```
CAGTAATGACGATCTTGGCGACATGAGCGGTCAAAGACGCATTCTCTCTT    1650
GTCATTACTGCTAGAACCGCTGTACTCGCCAGTTTCTGCGTAAGAGAGAA

ACGACGTGGAAGGTGAAGGTTTTGCTGTCTGGCAGCAGAGTTCCTGGATA    1700
TGCTGCACCTTCCACTTCCAAAACGACAGACCGTCGTCTCAAGGACCTAT

TGGCTATTGAACTTCACACTGATGCTTGGATGCTTGGTGAAATTGCTGGT    1750
ACCGATAACTTGAAGTGTGACTACGAACCTACGAACCACTTTAACGACCA

TTACGGTGATCCGCAGCTGGACGCGCAAACGGACGCCTACTGCCAGCACA    1800
AATGCCACTAGGCGTCGACCTGCGCGTTTGCCTGCGGATGACGGTCGTGT

GGCAGCGGGCTGACTTCTATTTTAGCCAAGGACAGTCGTCTCAGGCCTAC    1850
CCGTCGCCCGACTGAAGATAAAATCGGTTCCTGTCAGCAGAGTCCGGATG

GCCGGTTACCTCAACTGTCTGCATATGTTTGGATTAAGTCTACCGGCGTC    1900
CGGCCAATGGAGTTGACAGACGTATACAAACCTAATTCAGATGGCCGCAG

GCGCTTGGAGTGTTACTTGCAGACCACGTGGCAGTTCCTTCGTTTTCTTT    1950
CGCGAACCTCACAATGAACGTCTGGTGCACCGTCAAGGAAGCAAAAGAAA

TCCATCGCCTCTGGCTGGGTCGGGTGCTGTCACGGCGGTCCGGTGGGCTG    2000
AGGTAGCGGAGACCGACCCAGCCCACGACAGTGCCGCCAGGCCACCCGAC

TTTAGCAACGCCGCCAGCAGGAAACAGGCGCTGGCATCTGCACGCGAACT    2050
AAATCGTTGCGGCGGTCGTCCTTTGTCCGCGACCGTAGACGTGCGCTTGA

GGCCCTGCTCTTCAACCGACTGAATCAATTGCAACTGACTGGAAATGGAA    2100
CCGGGACGAGAAGTTGGCTGACTTAGTTAACGTTGACTGACCTTTACCTT

GCCGCGGTGACATGAACGGCATTATGATGGCACTATTCGCAAGCAACATG    2150
CGGCGCCACTGTACTTGCCGTAATACTACCGTGATAAGCGTTCGTTGTAC

GCTGAAGTGGCGCACAATCTACTGACACCGCGCGAGACCATCTGCATCCA    2200
CGACTTCACCGCGTGTTAGATGACTGTGGCGCGCTCTGGTAGACGTAGGT

CGTAATGACAGCGTTGCGAATGAAGCGCAGTGCCCCAAAATGGTTGCAAC    2250
GCATTACTGTCGCAACGCTTACTTCGCGTCACGGGGTTTTACCAACGTTG

AGTTCTTCGCCCGATACTACATGAGCCGGGCTCGTCAAGAGTGCGGTCGC    2300
TCAAGAAGCGGGCTATGATGTACTCGGCCCGAGCAGTTCTCACGCCAGCG

ACTAGGGCCACCGAGCAAACGCAGGAGCTACGTTGGGCATTCACAGCCTA    2350
TGATCCCGGTGGCTCGTTTGCGTCCTCGATGCAACCCGTAAGTGTCGGAT

TGGATATCGCTACTGCGCCACGCACGTCTTCACGTACGATCTGAGCGACT    2400
ACCTATAGCGATGACGCGGTGCGTGCAGAAGTGCATGCTAGACTCGCTGA
```

FIG. 9C

```
CCGGCGAGCAGGATGGATTCTTCACACGTCTTAGGAATCCATGTGATCCC      2450
GGCCGCTCGTCCTACCTAAGAAGTGTGCAGAATCCTTAGGTACACTAGGG

GCTGCCCACGTCATTAAGCAATATCGAGAGCATTTGCTGTTTAAATCCAT      2500
CGACGGGTGCAGTAATTCGTTATAGCTCTCGTAAACGACAAATTTAGGTA

TCAGTGTCTGGTAGGAGCGGGCCACAAATCGGGAGGCCTGCCCACATCTT      2550
AGTCACAGACCATCCTCGCCCGGTGTTTAGCCCTCCGGACGGGTGTAGAA

CTGTCAGCGGAGAGGCGGAACAGTTGCAGCAACAGCAGCACAGCGGCACC      2600
GACAGTCGCCTCTCCGCCTTGTCAACGTCGTTGTCGTCGTGTCGCCGTGG

ATTGTCAGCAATGTTCTTAAGTACACGTCCCTCCTTAAGGACACTCTCTG      2650
TAACAGTCGTTACAAGAATTCATGTGCAGGGAGGAATTCCTGTGAGAGAC

GGCTGATGAGGATGAGCGGGATACAAACGTGGTGTGGTGGGCCGATGTTT      2700
CCGACTACTCCTACTCGCCCTATGTTTGCACCACACCACCCGGCTACAAA

TGGAGACCGCAGTGCACTGGCTCCTTGGTGAAGACACGCTGGCCGAGCAA      2750
ACCTCTGGCGTCACGTGACCGAGGAACCACTTCTGTGCGACCGGCTCGTT

TTGTACGGCAGGATCAAGCAAATGCCCACGCAGCTGCAACAGTGCGGCGA      2800
AACATGCCGTCCTAGTTCGTTTACGGGTGCGTCGACGTTGTCACGCCGCT

AAACGATCATCTGCCCAAGGCGCTGCATGCTGTGCTGCGAGCTAAGATGA      2850
TTTGCTAGTAGACGGGTTCCGCGACGTACGACACGACGCTCGATTCTACT

TCTTACTAAAAAACAATGGCAACGCACTGGACAAAAGTCTCAAGCAATTG      2900
AGAATGATTTTTTGTTACCGTTGCGTGACCTGTTTTCAGAGTTCGTTAAC

GTAAACATCCTCTGCGATGAGTCGAGTGTGGAGCTCCAAGAGTGCTTGAC      2950
CATTTGTAGGAGACGCTACTCAGCTCACACCTCGAGGTTCTCACGAACTG

TGTCAACCGGATCACCGACGCCAAGGGTATAAAGCTGCTTTTCCAGTTGC      3000
ACAGTTGGCCTAGTGGCTGCGGTTCCCATATTTCGACGAAAAGGTCAACG

TTACCTGCGATTGGCTGCTCGAAACTAGGACTGCTCTGTGGGAACTGGAA      3050
AATGGACGCTAACCGACGAGCTTTGATCCTGACGAGACACCCTTGACCTT

CACATGAATATGGAGGACGATGGCTTCTACCAAGTGCCAGGTGAAGTGCT      3100
GTGTACTTATACCTCCTGCTACCGAAGATGGTTCACGGTCCACTTCACGA

CGAGAAGTTCCAGACCGATTTGAACTCGTTGCGCAACATTGTGGAGAATA      3150
GCTCTTCAAGGTCTGGCTAAACTTGAGCAACGCGTTGTAACACCTCTTAT

TACCGAACGCCCAATCGCGCATATATTTGTACGAGGCAGTTTGTCGCCTG      3200
ATGGCTTGCGGGTTAGCGCGTATATAAACATGCTCCGTCAAACAGCGGAC
```

FIG. 9D

ATGGCTGGAGCCTCACCGTGTCCAACGCAACAGCTCTTGGACAGGAGTCT 3250
TACCGACCTCGGAGTGGCACAGGTTGCGTTGTCGAGAACCTGTCCTCAGA

GCGATCACGCAACGCCCACTCGTCCATCTTCTGCGGCAGCAAGGATCGGC 3300
CGCTAGTGCGTTGCGGGTGAGCAGGTAGAAGACGCCGTCGTTCCTAGCCG

GGCAGCAGAACTTCGTGGGCGGAGAGCGGGAACGGGCTTCGGCCATGTAC 3350
CCGTCGTCTTGAAGCACCCGCCTCTCGCCCTTGCCCGAAGCCGGTACATG

GTGGCCTGCAAGTATCTCCCGCCTGCGCTGCTCAGCTCCCCGGGTGAACG 3400
CACCGGACGTTCATAGAGGGCGGACGCGACGAGTCGAGGGGCCCACTTGC

TGCTGGCATGTTAGCCGAGGCGGCCAAGACCCTGGAGAAGGTGGGCGACA 3450
ACGACCGTACAATCGGCTCCGCCGGTTCTGGGACCTCTTCCACCCGCTGT

AGCGAAAGCTCAAGGAGTGCTACCAGCTGATGAAGTCGCTGGGCAACGGC 3500
TCGCTTTCGAGTTCCTCACGATGGTCGACTACTTCAGCGACCCGTTGCCG

ATTGGCAGCGTGAAGGCTTAGGATAGTAGTGAAGTACATAATAAGTGGCA 3550
TAACCGTCGCACTTCCGAATCCTATCATCACTTCATGTATTATTCACCGT

CGAACGTGGTGTGGATTTTCAGCAAATGAATACCCGTTTGCTATTCAAAA 3600
GCTTGCACCACACCTAAAAGTCGTTTACTTATGGGCAAACGATAAGTTTT

GAATTACAAATGCCTAGGTCTTTATAATTACGCTATTCCTCTGTTTTCCA 3650
CTTAATGTTTACGGATCCAGAAATATTAATGCGATAAGGAGACAAAAGGT

CGCCCGGTTATGCTTAGATTGTAATTTTAAAATTATTTAATATGGACATT 3700
GCGGGCCAATACGAATCTAACATTAAAATTTTAATAAATTATACCTGTAA

TTATTTGTTTATTATTTACCGTACTTGTTAAACGTATTTATAACAATAAA 3750
AATAAACAAATAATAAATGGCATGAACAATTTGCATAAATATTGTTATTT

TATTTTAACAGATTTAAA
ATAAAATTGTCTAAATTT

FIG. 9E

MDTTLMNLIDAPLDESMDLFKAEDVFEPFDADLHSDMLDIILNDMDLAPT 50

QMYNMLLDEPRTHTQQTQSVDQQPQSVEQQPHVKSEHSSPVHIKEELHQQ 100

QQQSPLLVYKPDPLIATSYNCPQQQPTGLLKAAQPTATIHHMDAQRMPPN 150

TAVYPPSLGSSFVYQSMSPPTSPVESANQNVNVMQPVAATPAPASAPLPQ 200

QSYPQPFITYNSKAGMTSDEAMYLLLQPTVASPTPSPPVAPPPTSTGSRA 250

SKVRVAPLAPSPAAMEVQGKVPINRVQPKVKEVKRSAHNAIERRYRTSIN 300

DKINELKNLVVGEQAKLNKSAVLRKSIDKIRDLQRQNHDLKAELQRLQRE 350

LMARDGSKVKDLLQLGTRPGRASKKRRESSQTFTTDAGLTPPRSDESDPS 400

LSPMHSDISLPPSPYGGSTASCSSGSSSSNEEPLVVPSSMRGMATHSRLG 450

LCMFMFAILAVNPFKTFLQRGHYDSNDDLGDMSGQRRILSYDVEGEGFAV 500

WQQSSWIWLLNFTLMLGCLVKLLVYGDPQLDAQTDAYCQHRQRADFYFSQ 550

GQSSQAYAGYLNCLHMFGLSLPASRLECYLQTTWQFLRFLFHRLWLGRVL 600

SRRSGGLFSNAASRKQALASARELALLFNRLNQLQLTGNGSRGDMNGIMM 650

ALFASNMAEVAHNLLTPRETICIHVMTALRMKRSAPKWLQQFFARYYMSR 700

ARQECGRTRATEQTQELRWAFTAYGYRYCATHVFTYDLSDSGEQDGFFTR 750

LRNPCDPAAHVIKQYREHLLFKSIQCLVGAGHKSGGLPTSSVSGEAEQLQ 800

QQQHSGTIVSNVLKYTSLLKDTLWADEDERDTNVVWWADVLETAVHWLLG 850

EDTLAEQLYGRIKQMPTQLQQCGENDHLPKALHAVLRAKMILLKNNGNAL 900

DKSLKQLVNILCDESSVELQECLTVNRITDAKGIKLLFQLLTCDWLLETR 950

TALWELEHMNMEDDGFYQVPGEVLEKFQTDLNSLRNIVENIPNAQSRIYL 1000

YEAVCRLMAGASPCPTQQLLDRSLRSRNAHSSIFCGSKDRRQQNFVGGER 1050

ERASAMYVACKYLPPALLSSPGERAGMLAEAAKTLEKVGDKRKLKECYQL 1100

MKSLGNGIGSVKA

FIG. 10